

**COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**SECOND SET OF INFORMATION REQUEST TO  
FITCHBURG GAS AND ELECTRIC LIGHT COMPANY  
D.T.E. 03-52**

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Pursuant to 220 C.M.R. 1.06(6)(c), The Department of Telecommunications and Energy (“Department”) hereby submits to Fitchburg Gas and Electric Light Company (“Fitchburg” or “Company”) the following second set of Information Requests.

**INSTRUCTIONS**

The following instructions apply to this set of Information Requests and all subsequent Information Requests issued by the Department to Fitchburg Gas and Electric Light Company in this proceeding.

1. “Fitchburg” or “Company” means Fitchburg Gas and Electric Light Company, its officers, directors, employees, consultants, and attorneys.
2. Each request should be answered in writing on a separate, three-hole punch page with a recitation of the request, a reference to the request number, the docket number of the case and the name of the person responsible for the answer.
3. Do not wait for all answers to be completed before supplying answers. Provide the answers as they are completed. Further, these requests shall be deemed continuing so as to require further supplemental responses if the or its witness receives or generates additional information within the scope of these requests between the time of the original response and the close of the record in this proceeding.
4. The term “provide complete and detailed documentation” means:  
  
Provide all data, assumptions and calculations relied upon. Provide the source of and basis for all data and assumptions employed. Include all studies, reports and planning documents from which data, estimates or assumptions were drawn and support for how the data or assumptions were used in developing the projections or estimates. Provide and explain all supporting work-papers.
5. The term “document” is used in its broadest sense and includes, without limitation, writings, drawings, graphs, charts, photographs, phono-records, microfilm, microfiche, computer printouts, correspondence, handwritten notes, records or reports, bills, checks, articles from journals or other sources and other data compilations from which information can be obtained and all copies of such documents that bear notations or other markings that differentiate such copies from the original.

6. If any one of these requests is ambiguous, notify the Hearing Officer so that the request may be clarified prior to the preparation of a written response.
7. Please serve copies of the responses as follows: one (1) copy of the responses to Mary Cottrell, Secretary of the Department and on all parties; one (1) copy of the responses to Michael Killion, Hearing Officer; and (4) four copies of the responses to Andréas Thanos, Gas Division.

### **INFORMATION REQUESTS**

- DTE 2-1 Please explain why the real price of gas for commercials and the real price of distillate oil were deflated using the Consumer Price Index (“CPI”) instead of the Producer Price Index (“PPI”) (see page 4 of the Company’s filing).
- DTE 2-2 Please clarify the discrepancies between the historical time period used in the customer class forecasts, stated on page 8 of the Company’s filing (from 1983 to 1999), the same stated on page 16 and on page 20 of the Company’s filing (from 1983 to 2002), and the historical time period stated on page 17 of the Company’s filing (from 1983 to 2001).
- DTE 2-3 Please discuss the consequences in terms of forecast reliability of aggregating the low and high load class volumes in the econometric model. Can the consumption patterns of both low and high load customer be explained by the same variables? Please discuss.
- DTE 2-4 Please explain the following statement: “The historic relationship between firm throughput and total firm sales was projected on a statistical basis and applied to the total firm sales forecast to project future firm throughput” (see page 14 of the Company’s filing). In addition, please:
- (a) specify the length of historical relationship considered by the Company;
  - (b) discuss in detail how firm throughput was projected from that historical relationship;
  - ©) provide data of historical firm throughput and total firm sales used by the Company to forecast firm throughput.
- DTE 2-5 Please explain why the Company uses economic and demographic variables specific to Worcester County (POP, MANEM, SVCEM, NMEMP, DINCPC, DISINC, OUTPUT, HHOLD, HSTOCK, HHSIZE, and HSTART) instead of the Company’s specific service territory (see page 17 of the Company’s filing).

Please, present evidence proving that data from Worcester County are appropriate proxy of Fitchburg' service territory.

- DTE 2-6 Please refer to page 18 of the Company's filing. Please specify the components (e.g., gas commodity, distribution...) of the real price of gas to residential, commercial and industrial customers.
- DTE 2-7 Please provide the nominal price of gas to residential, commercial and industrial customers as well as the CPI and PPI used by the Company to deflate the nominal price series mentioned above.
- DTE 2-8 The Company used heating degree-days ('HDD") to normalize sales (see page 19 of the Company's filing). In this regard, please:
- (a) define heating degree-days ("HDD") and effective degree-days ("EDD"). Please, emphasize the differences between those two temperature measures and how those differences applied to Fitchburg service territory;
  - (b) justify the use of HDD in the normalization of sales;
  - ©) show graphically, using line graphs, and also in a tabular form, the average monthly minimum, the average monthly maximum average HDD and EDD for the Company's service territory and for the past 20 years.
- DTE 2-9 The Company states that the weather data were not incorporated into the equations as explanatory variables, as all throughput data were weather normalized prior to estimation (see page 19 of the Company's filing). Please discuss why the Company used this strategy versus using non-weather normalized data and include the weather variable in the equation for the estimation.
- DTE 2-10 Please specify the computer software used to estimate the forecast equations stated in Requirement Assessment section of the Company's filing and provide the input files printouts of each of the models.
- DTE 2-11 Please explain the following sentence: "Sometimes statistical relationships differ from a priori expectations yet still reflect plausible underlying relationships" (see page 22 of the Company's filing).

- DTE 2-12      Regarding the forecast equations stated in Requirement Assessment section of the Company's filing, please:
- (a)      indicate the level of statistical significance of the estimates selected by the Company to determine whether or not an independent variable has explanatory power (see page 19 of the Company's filing);
  - (b)      indicate whether the Company selected an "A Priori" level of statistical significance? Discuss why or why not;
  - ©)      discuss whether or not the Company believes that the potential problem of multicollinearity among the independent variables was corrected by taking the logarithmic form of the variables. Please, explain why or why not.
- DTE 2-13      Please discuss the three different patterns, at three periods on time, showed by the number of residential customers variable (see page 26 of the Company's filing).
- DTE 2-14      Regarding the forecasting equation for the number of residential customers (see pages 26-27 of the Company's filing). The Company states that it seems reasonable to truncate the historical data set to include only the more recent history from 1995 through 2002. In this regard, please:
- (a)      explain what the Company means by "more reasonable";
  - (b)      discuss the consequences of not-incorporating all historical information available to the Company to forecast the number of residential customers
  - ©)      discuss whether the Company believes that the reason it could not find strong correlation between dependent variable and most economic and demographic variables is the result of using Worcester data instead of Company specific data.
- DTE 2-15      Regarding the residential volume regression (see pages 27-30 of the Company's filing):
- (a)      discuss how the Company evaluates the R<sup>2</sup> of 0.625;
  - (b)      does the Company think that the reason it could not find strong correlation between dependent variable and most economic and demographic variables is the result of using Worcester data instead of Company specific data?

- DTE 2-16 Please refer to the residential forecast results (see page 30, Table 2.8 of the Company's filing). The Company states that the residential customer and sales equations performed well. In this regard, please, discuss why the Company believes that a 3.2 percent, 4.6 percent, and 4.6 percent variances for the years 1998, 2001, and 2002 respectively in residential sales is a good performance.
- DTE 2-17 Please refer to the small commercial and industrial customer regression (see pages 32-34 of the Company's filing). In this regard, please explain the following statement: "it is more likely that the population variable is tempering the strength of the service employment variable" (see page 33 of the Company's filing)
- DTE 2-18 Please refer to the small commercial and industrial volume regression (see pages 34-36 of the Company's filing). In this regard, please:
- (a) define the variables "DINCAP" and "DINCPC" and explain the differences between them;
  - (b) discuss whether the variable "disposable income per capita" was deflated when used in the regression;
  - (c) explain why the Company chose two measures of economic growth to forecast volume. Was not enough to count on one measure of economic growth?
  - (d) graph, using line graphs, and a tabular form, the relationship between the "DINCPC" and the "SVCEMP" variables respect to time (1983-2002);
  - (e) graph, using line graphs, and a tabular form, the relationship between the "DINCPC" and the "SVCEMP" variables in logarithmic form respect to time (1983-2002);
  - (f) discuss why the Company believes that the statistical relation between "DINCPC" and "SVCEMP" is going to continue in the future.
- DTE 2-19 Please refer to the small commercial and industrial forecast results (see pages 36-38, Table 2.16 of the Company's filing). Please discuss how the Company evaluates the results of the backcast analysis of sales.
- DTE 2-20 Please refer to the medium commercial and industrial volume regression (see pages 41-43 of the Company's filing). In this regard,
- (a) discuss the rationale for including the variable "DISINC" and specify whether or not this variable was deflated;

(b) discuss the meaning of the negative sign of the variable the “DISINC”.

DTE 2-21 Please refer to the forecast results (see pages 30, 36, 43, and 50 of the Company’s filing). Please state and discuss the levels of “Mean Absolute Deviation” and “Mean Deviation” which would make the Company not satisfy and consequently remodel the forecast equations.

DTE 2-22 The Company indicates that it developed the total company throughput forecast by analyzing the historic relationship between end use consumption and total company throughput requirements and that the resultant analysis was utilized to forecast total company throughput requirement (see p. 53 of the Company’s filing). In this regard, please:

- (a) provide the historic relationship between end use consumption and total company throughput requirement in a separate table;
- (b) discuss in detail how the Company used that historic relationship to project the firm throughput over the period 2003-2007;
- © discuss why the Company does not present any “Company Use” (see p. A-9 of the Appendix of the Company’s filing).

DTE 2-23 Please explain how the Company counts on the energy saving stemming from DSM measures to develop the firm throughput forecast.

DTE 2-24 Please present figures, in the same fashion as Figure 4 (see page 54 of the Company’s filing), showing the small and medium C&I firm sales customers vs. firm transportation customers for the period 1999-2002.

DTE 2-25 Please present Figures, in the same fashion as Figure 5 (see page 55 of the Company’s filing), showing the small and medium C&I firm sales volumes vs. firm transportation volumes for the period 1999-2002.

DTE 2-26 Please explain why the Company develops the “FT-Base Case Scenario” based on actual data from only December 2002 and not from a longer historical period.

DTE 2-27 Please refer to page 57 of the Company’s filing. The Company states that it is reasonable to expect reverse migration given the lack of growth in activity by competitive suppliers. Please discuss in detail why the Company thinks that the lack of growth in activity by competitive suppliers will continue during the forecast period.

- DTE 2-28      Please state whether or not the Company has Grandfathered C&I transportation customers. If yes, please explain how the Company forecasted the number of customers and their corresponding volumes for all the transportation scenarios.
- DTE 2-29      Please refer to page A-7 of the Appendix of the Company's filing. Please explain why "Interruptible" is not applicable.
- DTE 2-30      Please provide on disk in Excel format all the data used as inputs (including the forecasted explanatory variables) to the models stated in the Customer Class Forecasts of the Company's filing.
- DTE 2-31      Please describe the level of training, technical competence, and industry experience of each Commonwealth Energy Advisor' staff who was directly involved in the preparation of the econometric model design and forecast results Report.